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NEWS	4	JAN 28	USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats
NEWS	5	JAN 28	MARPAT searching enhanced
NEWS	6	JAN 28	USGENE now provides USPTO sequence data within 3 days of publication
NEWS	7	JAN 28	TOXCENTER enhanced with reloaded MEDLINE segment
NEWS	8	JAN 28	MEDLINE and LMEDLINE reloaded with enhancements
NEWS	9	FEB 08	STN Express, Version 8.3, now available
NEWS	10	FEB 20	PCI now available as a replacement to DPCI
NEWS	11	FEB 25	IFIREF reloaded with enhancements
NEWS	12	FEB 25	IMSPRODUCT reloaded with enhancements
NEWS	13	FEB 29	WPINDEX/WPIDS/WPIX enhanced with ECLA and current U.S. National Patent Classification
NEWS	14	MAR 31	IFICDB, IFIPAT, and IFIUDB enhanced with new custom IPC display formats
NEWS	15	MAR 31	CAS REGISTRY enhanced with additional experimental spectra
NEWS	16	MAR 31	CA/CAplus and CASREACT patent number format for U.S. applications updated
NEWS	17	MAR 31	LPCI now available as a replacement to LDPCI
NEWS	18	MAR 31	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	19	APR 04	STN AnaVist, Version 1, to be discontinued
NEWS	20	APR 15	WPIDS, WPINDEX, and WPIX enhanced with new predefined hit display formats
NEWS	21	APR 28	EMBASE Controlled Term thesaurus enhanced
NEWS	22	APR 28	IMSRESEARCH reloaded with enhancements

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

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FILE 'HOME' ENTERED AT 10:24:37 ON 28 MAY 2008

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COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                         ENTRY   SESSION
FULL ESTIMATED COST   0.21   0.21

FILE 'DISSABS' ENTERED AT 10:24:51 ON 28 MAY 2008

FILE 'DKF' ENTERED AT 10:24:51 ON 28 MAY 2008

FILE 'NTIS' ENTERED AT 10:24:51 ON 28 MAY 2008

FILE 'SOFIS' ENTERED AT 10:24:51 ON 28 MAY 2008

FILE 'SOLIS' ENTERED AT 10:24:51 ON 28 MAY 2008

FILE 'UFORDAT' ENTERED AT 10:24:51 ON 28 MAY 2008

=> b reg
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                         ENTRY   SESSION
FULL ESTIMATED COST   7.45   7.66

FILE 'REGISTRY' ENTERED AT 10:24:54 ON 28 MAY 2008

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STRUCTURE FILE UPDATES: 27 MAY 2008 HIGHEST RN 1023132-78-6
DICTIONARY FILE UPDATES: 27 MAY 2008 HIGHEST RN 1023132-78-6

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experimental property data in the original document. For information

on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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=> e 488-59-5/rn
E1            1     488-55-1/RN
E2            1     488-58-4/RN
E3            1 --> 488-59-5/RN
E4            1     488-64-2/RN
E5            1     488-65-3/RN
E6            1     488-66-4/RN
E7            1     488-67-5/RN
E8            1     488-68-6/RN
E9            1     488-69-7/RN
E10           1     488-70-0/RN
E11           1     488-71-1/RN
E12           1     488-73-3/RN

=> s e3
L1            1 488-59-5/RN

=> d l1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2008 ACS on STN
RN   488-59-5  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   scyllo-Inositol  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Inositol, scyllo- (8CI)
CN   Scyllitol (6CI, 7CI)
OTHER NAMES:
CN   AZD 103
CN   Cocositol
CN   Quercinitol
CN   scyllo-Cyclohexanehexol
FS   STEREOSEARCH
DR   887751-76-0
MF   C6 H12 O6
CI   COM
LC   STN Files:   ADISINSIGHT, AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS,
       BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
       CHEMLIST, CSCHEM, DDFU, DRUGU, EMBASE, GMELIN*, IMSDRUGNEWS,
       IMSRESEARCH, MEDLINE, NAPRALERT, PROUSDDR, SPECINFO, TOXCENTER, USPAT2,
       USPATFULL, USPATOLD
         (*File contains numerically searchable property data)

Relative stereochemistry.
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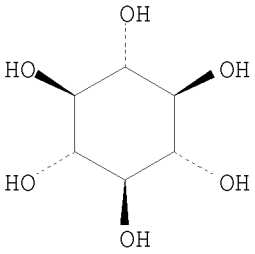

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

363 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
364 REFERENCES IN FILE CAPLUS (1907 TO DATE)
23 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> b caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.46	10.12

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FILE LAST UPDATED: 27 May 2008 (20080527/ED)

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http://www.cas.org/legal/infopolicy.html

=> s l1 and prep/rl
364 L1
4578676 PREP/RL
L2 86 L1 AND PREP/RL

=> s l2 and (bor?)
661159 BOR?
L3 16 L2 AND (BOR?)

=> s l3 and py<=2004
25083718 PY<=2004
L4 15 L3 AND PY<=2004

=> s l3 and inososе
350 INOSOSE
32 INOSOSES
356 INOSOSE
(INOSOSE OR INOSOSES)
L5 9 L3 AND INOSOSE

=> d l5 1-9 ibib abs hit

L5 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:347182 CAPLUS
DOCUMENT NUMBER: 142:372560
TITLE: Enzymic manufacture of scyllo-inositol from myo-inositol and manufacture of scyllo-inositol from myo-inositol
INVENTOR(S): Yamaguchi, Masanori; Kita, Yuichi; Mori, Tetsuya; Kanbe, Kenji; Tomoda, Akihiro; Takahashi, Atsushi; Ichikawa, Wakako
PATENT ASSIGNEE(S): Hokko Chemical Industry Co., Ltd., Japan
SOURCE: PCT Int. Appl., 117 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005035774	A1	20050421	WO 2004-JP15174	20041014
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2542560	A1	20050421	CA 2004-2542560	20041014
EP 1674578	A1	20060628	EP 2004-817164	20041014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1867676	A	20061122	CN 2004-80030178	20041014
US 20060240534	A1	20061026	US 2006-576030	20060413
IN 2006CN01666	A	20070629	IN 2006-CN1666	20060512

PRIORITY APPLN. INFO.:		
JP 2003-353490	A	20031014
JP 2003-353491	A	20031014
JP 2004-18128	A	20040127
JP 2004-194088	A	20040630
WO 2004-JP15174	W	20041014

AB Scyllo-inositol is manufactured from myo-inositol by enzymes containing NAD+-independent myo-inositol dehydrogenase and scyllo-inositol dehydrogenase. The myo-inositol is first converted to scyllo-*inosose* and then to scyllo-inositol. Alternatively, scyllo-inositol is manufactured from myo-inositol with Burkholderia or Acetobacter. The scyllo-inositol may be isolated from the reaction mixture or fermentation broth by *boric* acid and metal salts.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB Scyllo-inositol is manufactured from myo-inositol by enzymes containing NAD+-independent myo-inositol dehydrogenase and scyllo-inositol dehydrogenase. The myo-inositol is first converted to scyllo-*inosose* and then to scyllo-inositol. Alternatively, scyllo-inositol is manufactured from myo-inositol with Burkholderia or

Acetobacter. The scyllo-inositol may be isolated from the reaction mixture or fermentation broth by *boric* acid and metal salts.

IT *488-59-5P*, scyllo-Inositol
RL: BPN (Biosynthetic preparation); BIOL (Biological study); *PREP (Preparation)*
(enzymic manufacture of scyllo-inositol from myo-inositol and manufacture of scyllo-inositol from myo-inositol)

IT 488-64-2P, scyllo-*Inosose*
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); *PREP (Preparation)*; RACT (Reactant or reagent)
(enzymic manufacture of scyllo-inositol from myo-inositol and manufacture of scyllo-inositol from myo-inositol)

IT 144-55-8, Sodium bicarbonate, biological studies 298-14-6, Potassium bicarbonate 497-19-8, Sodium carbonate, biological studies 546-93-0, Magnesium carbonate 1303-96-4, *Borax* 7447-40-7, Potassium chloride, biological studies 7487-88-9, Magnesium sulfate, biological studies 7558-79-4, Sodium monohydrogen phosphate 7558-80-7, Sodium dihydrogen phosphate 7601-54-9, Trisodium phosphate 7646-93-7, Potassium bisulfate 7647-01-0, Hydrochloric acid, biological studies 7647-14-5, Sodium chloride, biological studies 7681-38-1, Sodium hydrogen sulfate 7757-82-6, Sodium sulfate, biological studies 7758-11-4, Potassium monohydrogen phosphate 7778-53-2, Tripotassium phosphate 7778-77-0, Potassium dihydrogen phosphate 7778-80-5, Potassium sulfate, biological studies 7786-30-3, Magnesium chloride, biological studies 10043-35-3, *Boric* acid, biological studies
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(enzymic manufacture of scyllo-inositol from myo-inositol and manufacture of scyllo-inositol from myo-inositol)

L5 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:287066 CAPLUS
DOCUMENT NUMBER: 140:304023
TITLE: Preparation of scyllo-inositol with high stereoselectivity
INVENTOR(S): Takahashi, Yoshiaki; Miyake, Toshiaki; Saotome, Hiromi; Yamaguchi, Masanori; Takahashi, Atsushi
PATENT ASSIGNEE(S): Hokko Chemical Industry Co., Ltd., Japan; Microbiochemical Research Foundation
SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004107287	A	20040408	JP 2002-274716	20020920

PRIORITY APPLN. INFO.: JP 2002-274716 20020920
OTHER SOURCE(S): MARPAT 140:304023

AB The compound, useful as a material for Anti-Alzheimer's agents and liquid crystal compds. (no data), is prepared by protection of 5 OH groups in scyllo-*inosose* with organosilyl compds. or halo-, alkoxy-, or aryloxy-(un)substituted lower alkanoyl compds., reduction of OH-protected scyllo-*inosose* with *boron* hydride-type reducing agents or Ni catalysts and H, recovery of OH-protected scyllo-inositol and myo-inositol from the reaction mixts., deprotection, recovery of

scyllo-inositol and myo-inositol, and separation of them. 1,3,4,5,6-Penta-O-triorganosilyl-scyllo-inositols are prepared as intermediates. Purification processes of scyllo-*inosose* from their aqueous solution are also described. An aqueous solution containing 10% scyllo-*inosose* was subjected to evaporation to dryness at 76°, reacted with Me3SiCl in pyridine and AcOEt at 50° for 30 min, reduced with NaBH4 in MeOH-hexane at room temperature for 30 min, deprotected with HCl for 30 min, and recrystd. in H2O-EtOH to give 79% scyllo-inositol without myo-inositol.

AB The compound, useful as a material for Anti-Alzheimer's agents and liquid crystal compds. (no data), is prepared by protection of 5 OH groups in scyllo-*inosose* with organosilyl compds. or halo-, alkoxy-, or aryloxy-(un)substituted lower alkanoyl compds., reduction of OH-protected scyllo-*inosose* with *boron* hydride-type reducing agents or Ni catalysts and H, recovery of OH-protected scyllo-inositol and myo-inositol from the reaction mixts., deprotection, recovery of scyllo-inositol and myo-inositol, and separation of them. 1,3,4,5,6-Penta-O-triorganosilyl-scyllo-inositols are prepared as intermediates. Purification processes of scyllo-*inosose* from their aqueous solution are also described. An aqueous solution containing 10% scyllo-*inosose* was subjected to evaporation to dryness at 76°, reacted with Me3SiCl in pyridine and AcOEt at 50° for 30 min, reduced with NaBH4 in MeOH-hexane at room temperature for 30 min, deprotected with HCl for 30 min, and recrystd. in H2O-EtOH to give 79% scyllo-inositol without myo-inositol.

ST scyllo *inosose* protection organosilyl compd; alkanoyl compd protection scyllo *inosose*; silyl protected *inosose* stereoselective redn *boron* hydride; nickel catalyst stereoselective hydrogenation alkanoyl *inosose*; inositol scyllo stereoselective prepn; sodium *borohydride* stereoselective redn scyllo methylsilylinosose; acetylinosose scyllo stereoselective hydrogenation catalyst nickel

IT Silanes
RL: RCT (Reactant); RACT (Reactant or reagent)
(halosilanes, organic, protecting compound; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT Polar solvents
(mixts. with nonpolar solvents, solvents in reduction; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT Solvents
(nonpolar, mixts. with polar solvents, solvents in reduction; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT Asymmetric synthesis and induction
Asymmetric synthesis and induction catalysts
(preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT Alcohols, uses
Esters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvents in reduction; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT Hydrogenation catalysts

Reduction
(stereoselective; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 110-54-3, Hexane, uses
RL: NUU (Other use, unclassified); USES (Uses)
(mixture with MeOH, solvent in reduction; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT *488-59-5P*, scyllo-Inositol
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); *PREP (Preparation)*
(preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 488-64-2P, scyllo-*Inosose*
RL: PUR (Purification or recovery); RCT (Reactant); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 676655-70-2P 676655-71-3P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 75-77-4, Trimethylsilyl chloride, reactions 108-24-7, Acetic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(protecting compound; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 16940-66-2, Sodium tetrahydroborate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reducing agent; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 13283-31-3D, *Boron* hydride, salts
RL: RCT (Reactant); RACT (Reactant or reagent)
(reducing agents; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 7440-02-0, Nickel, uses
RL: CAT (Catalyst use); USES (Uses)
(reducing catalyst; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 64-17-5, Ethanol, uses 67-64-1, Acetone, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent for purification of *inosose*; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

IT 67-56-1, Methanol, uses 141-78-6, Ethyl acetate, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent in reduction; preparation of scyllo-inositol by protection of scyllo-*inosose* with organosilyl compds. or lower alkanoyl compds., stereoselective reduction, and deprotection)

L5 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:266870 CAPLUS
DOCUMENT NUMBER: 138:270409
TITLE: Scyllo-*inosose* and scyllo-inositol manufacture
INVENTOR(S): Kamibe, Kenji; Takahashi, Atsushi; Kita, Yuichi; Yamaguchi, Masanori; Tamamura, Takeshi; Mori, Tetsuya
PATENT ASSIGNEE(S): Hokko Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003102492	A	20030408	JP 2002-184912	20020625
JP 3981597	B2	20070926		

PRIORITY APPLN. INFO.: JP 2001-191161 A 20010625

AB The scyllo-*inosose* is manufactured from myo-inositol with Pseudomos and Acetobacter. The scyllo-*inosose* is reduced with an reductant such as sodium *borohydride* to get scyllo-inositol. The physiol. and morphol. characteristics of these microorganisms were given. The scyllo-*inosose* is an useful intermediate for manufacturing pharmaceuticals. The scyllo-inositol is useful for control of. Alzheimer disease and for prepared liquid crystal.

TI Scyllo-*inosose* and scyllo-inositol manufacture

AB The scyllo-*inosose* is manufactured from myo-inositol with Pseudomos and Acetobacter. The scyllo-*inosose* is reduced with an reductant such as sodium *borohydride* to get scyllo-inositol. The physiol. and morphol. characteristics of these microorganisms were given. The scyllo-*inosose* is an useful intermediate for manufacturing pharmaceuticals. The scyllo-inositol is useful for control of. Alzheimer disease and for prepared liquid crystal.

ST scyllo *inosose* manuf myoinositol Pseudomos Acetobacter; redn scyllo inositol Alzheimer disease pharmaceutical

IT Acetobacter
Alzheimer's disease
Fermentation
Liquid crystals
Pseudomonas
Reducing agents
(scyllo-*inosose* and scyllo-inositol manufacture)

IT 488-64-2P, scyllo-*Inosose*
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); *PREP* *(Preparation)*; USES (Uses)
(scyllo-*inosose* and scyllo-inositol manufacture)

IT 87-89-8, myo-Inositol
RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(scyllo-*inosose* and scyllo-inositol manufacture)

IT 16940-66-2, Sodium *borohydride*
RL: RCT (Reactant); RACT (Reactant or reagent)
(scyllo-*inosose* and scyllo-inositol manufacture)

IT *488-59-5P*, scyllo-Inositol
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); *PREP* *(Preparation)*; USES (Uses)

(scyllo-*inosose* and scyllo-inositol manufacture)

L5 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1986:130221 CAPLUS
DOCUMENT NUMBER: 104:130221
ORIGINAL REFERENCE NO.: 104:20621a,20624a
TITLE: Scyllo-inositol
INVENTOR(S): Praefcke, Klaus; Kohne, Bernd
PATENT ASSIGNEE(S): Merck Patent G.m.b.H. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3405663	A1	19850822	DE 1984-3405663	19840217
JP 60248637	A	19851209	JP 1985-26630	19850215

PRIORITY APPLN. INFO.: DE 1984-3405663 A 19840217

AB The title compound (I) was prepared from myo-inositol (II) in a 4 step process by oxidation of II with mol. O using a reduced PtO catalyst, acetylation of the resulting myo-*inosose*, reduction of the penta-O-acetyl-myo-*inosose* with NaBH4 in MeOH, and deacetylation.
AB The title compound (I) was prepared from myo-inositol (II) in a 4 step process by oxidation of II with mol. O using a reduced PtO catalyst, acetylation of the resulting myo-*inosose*, reduction of the penta-O-acetyl-myo-*inosose* with NaBH4 in MeOH, and deacetylation.
ST myo inositol oxidn; *inosose* pentaacetyl redn *borohydride* ; inositol scyllo
IT 488-64-2P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation and acetylation of)
IT 20097-56-7P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation and reduction and deacetylation of)
IT *488-59-5P*
RL: SPN (Synthetic preparation); *PREP (Preparation)*
(preparation of, from myo-inositol, by oxidation-reduction process)

L5 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1985:406642 CAPLUS
DOCUMENT NUMBER: 103:6642
ORIGINAL REFERENCE NO.: 103:1203a,1206a
TITLE: Note on the preparation of scyllo-inositol
AUTHOR(S): Kohne, Bernd; Praefcke, Klaus
CORPORATE SOURCE: Inst. Org. Chem., Tech. Univ. Berlin, Berlin, D-1000/12, Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1985), (4), 866-8
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 103:6642

AB A simplified synthesis of scyllo-inositol from myo-inositol via myo-*inosose* pentaacetate is described.
AB A simplified synthesis of scyllo-inositol from myo-inositol via myo-

inosose pentaacetate is described.

IT 87-89-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, to *inosose* in presence of platinum(II) oxide)

IT 488-64-2P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation and acetylation of)

IT 20097-56-7P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation and *borohydride* reduction of)

IT *488-59-5P*
RL: SPN (Synthetic preparation); *PREP (Preparation)*
(preparation of, from myo-inositol)

L5 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1979:570714 CAPLUS
DOCUMENT NUMBER: 91:170714
ORIGINAL REFERENCE NO.: 91:27513a,27516a
TITLE: Intermediates in the myo-inositol 1-phosphate synthase reaction
AUTHOR(S): Eisenberg, Frank, Jr.
CORPORATE SOURCE: Natl. Inst. Arthritis, Metabl. Dig. Dis., NIH, Bethesda, MD, 20014, USA
SOURCE: Cyclitols Phosphoinositides, [Proc. Symp.] (1978), Meeting Date 1977, 269-78. Editor(s): Wells, William W.; Eisenberg, Frank, Jr. Academic: New York, N. Y. CODEN: 40YTAT
DOCUMENT TYPE: Conference
LANGUAGE: English

AB Two lines of evidence, both indirect, are presented to support an internal aldol condensation mechanism in the oxido-reductive conversion of glucose 6-phosphate into myo-inositol 1-phosphate, catalyzed by myo-inositol 1-phosphate synthase and NAD. Comparison of enzymic reaction rates among variously 2H-labeled glucose 6-phosphates suggests activation at C5, consistent with the aldol mechanism. The addition of NaB3H4 to a synthesizing system led to the isolation of epimeric inositol-3H and scyllo-inositol-3H, consistent with the formation of myo-*inosose* -2 1-phosphate, an intermediate postulated by the aldol mechanism. Addnl., tech. innovations in the gas chromatog. separation of iditol and glucitol, the epimers expected from NaBH4 reduction of 5-ketoglucose 6-phosphate, another postulated intermediate, are presented.
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IT *488-59-5*
RL: FORM (Formation, nonpreparative)
(formation of, in inositol phosphate synthase reaction after *borohydride* redn)

IT 71716-43-3P
RL: RCT (Reactant); SPN (Synthetic preparation); *PREP (Preparation)*; RACT (Reactant or reagent)
(preparation and hydrolysis of)
IT 3470-36-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with deuterated sodium *borohydride*)
IT 1198-69-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, with *borohydride*)

L5 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1958:92501 CAPLUS
DOCUMENT NUMBER: 52:92501
ORIGINAL REFERENCE NO.: 52:16223h-i,16224a
TITLE: Scyllitol diborate
AUTHOR(S): Weissbach, Arthur
CORPORATE SOURCE: Natl. Insts. of Health, Bethesda, MD
SOURCE: Journal of Organic Chemistry (1958), 23, 329-30
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Theoretically the all-axial conformation of scyllitol (I) could form a double tridentate complex (II) with *borate*. In support of this hypothesis, II has now been isolated. The reduction of scyllo-myo-*inosose* with NaBH4 was reported (Reymond, C.A. 51, 12024c) to yield 32% I and 45% myoinositol (III). During this reduction the present author noted a white solid that began to precipitate from the mixture, and after 24-36 hrs. this precipitate was collected, washed with H2O and dried to give 0.9 g. crude II. II was distinguished from I, III, and the starting material by paper chromatography. II migrated twice as fast as III on paper ionophoresis in 0.125M Na *borate*. I in this ionophoresis shows no migration. II is nonreducing in Fehling or Park-Johnson tests. II with Ac2O and H2SO4 gave 60-70% I hexaacetate, m. 286°. III hexaacetate was not detected. II acidified with H2SO4, the resultant solution repeatedly evaporated with MeOH, the residue taken up in H2O, deionized with Amberlite MB-3, and the eluate again taken to dryness gave I. II would appear to be a monohydrate. I heated at 100° with 0.125M *borate* gave a compound migrating at the same rate as II. The stereochemistry of II is still unproved and is being further investigated.
AB Theoretically the all-axial conformation of scyllitol (I) could form a double tridentate complex (II) with *borate*. In support of this hypothesis, II has now been isolated. The reduction of scyllo-myo-*inosose* with NaBH4 was reported (Reymond, C.A. 51, 12024c) to yield 32% I and 45% myoinositol (III). During this reduction the present author noted a white solid that began to precipitate from the mixture, and after 24-36 hrs. this precipitate was collected, washed with H2O and dried to give 0.9 g. crude II. II was distinguished from I, III, and the starting material by paper chromatography. II migrated twice as fast as III on paper ionophoresis in 0.125M Na *borate*. I in this ionophoresis shows no migration. II is nonreducing in Fehling or Park-Johnson tests. II with Ac2O and H2SO4 gave 60-70% I hexaacetate, m. 286°. III hexaacetate was not detected. II acidified with H2SO4, the resultant solution repeatedly evaporated with MeOH, the residue taken up in H2O, deionized

with Amberlite MB-3, and the eluate again taken to dryness gave I. II would appear to be a monohydrate. I heated at 100° with 0.125M *borate* gave a compound migrating at the same rate as II. The stereochemistry of II is still unproved and is being further investigated.

IT Scyllitol, diborate
RL: *PREP (Preparation)*

IT *488-59-5P*, Scyllitol, Na derivative 892110-01-9P, *Boric* acid, ester with scyllitol
RL: *PREP (Preparation)*
(preparation of)

L5 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1958:25260 CAPLUS
DOCUMENT NUMBER: 52:25260
ORIGINAL REFERENCE NO.: 52:4513i,4514a-i,4515a-g
TITLE: Cyclitols. VI. Hydrogenation of hexahydroxybenzene
AUTHOR(S): Angyal, S. J.; McHugh, D. J.
CORPORATE SOURCE: N.S. Wales Univ. Technol., Sydney
SOURCE: Journal of the Chemical Society (1957) 3682-91
CODEN: JCSOA9; ISSN: 0368-1769
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 51, 12010g. Catalytic hydrogenation of hexahydroxybenzene (I) under various conditions gave complex mixts. of polyhydroxycyclohexanes which were separated by chromatog. on cellulose powder. Seven inositols and 4 quercitols were obtained from various runs, including the previously unknown cis-inositol (II), cis-quercitol (III), and cis-*inosose* (IV). At room temperature with a Pd catalyst myo-inositol (V) was the chief product, whereas Pd-C gave mainly II. High temperature hydrogenation over Raney Ni showed little stereospecificity. Me_2CO-H_2O (4:1) was used as the mobile phase unless otherwise stated. A suspension of 4 g. tetrahydroxybenzoquinone (Va) and 0.2 g. 10% Pd-C in 250 mL. H_2O hydrogenated at room temperature and pressure gave in 7 h. I, whereupon 1.0 g. Pd catalyst was added and the hydrogenation continued. The reduction required 82 h. and 3 g. more catalyst was added during this period, the catalyst was removed, washed with hot H_2O and the filtrate evaporated under reduced pressure and dried. The partially crystallized residue was warmed with H_2O, and the material filtered to give scyllo-inositol (VI), m. 330-40° (H_2O-alc.); hexaacetyl derivative, m. 292-3°. The filtrate from VI was seeded with neo-inositol (VII) and left overnight at 0°, and the solution chromatographed on cellulose powder to give a mixture of inositols and V. Their isolation was further studied. Thus, fractions 20-36 contained a reducing compound which, when treated with $PhNHNH_2$, gave IV phenylhydrazone, decomposing at 150-60° (MeOH-H_2O). The phenylhydrazone gave IV, m. 179-80° (H_2O-alc.) (decomposition). The mother liquors from the separation of the phenylhydrazone were freed from $PhNHNH_2$ by warming with BzH and extracting with Et_2O, evaporated, and the residue chromatographed, and after many chromatog. sepns. gave 7 fractions (A-G). Each fraction was evaporated to a small volume, treated with C, dissolved in a min. of alc. or aqueous alc., and stored at 0°. If no crystallization occurred, the solution was evaporated, the residue acetylated and stored under a min. of alc. Fraction A, RF 0.85, after acetylation gave crystals of cyclohexanetetrol tetraacetate (VIIa), m. 124° (EtOAc-ligroine). Deacetylation of VIIa by refluxing with alc. containing 5% HCl gave crystals, darkening at 195-200°, m. 205-10°. The residue from the mother liquors gave a mixture of noncryst. cyclohexanetetrol tetraacetates.

Fraction B, RF 0.70, could not be crystallized In another run (from Va) this fraction showed strong reducing properties and after further chromatog. gave a pure product, m. 160-1°, which reduced Fehling solution in the cold, and failed to give a crystalline acetate. The RF of fractions C, D, and E was 0.62, 0.53, and 0.45, resp. No crystalline product could be obtained. After acetylation, each fraction was distilled in vacuo. Anal. showed the first 2 to be mixts. of tetraacetoxycyclohexanes and the last a mixture of penta-O-acetylquercitols. From fraction F (RF 0.39) crystals separated; acetylation gave penta-O-acetyl-cis-quercitol (VIII), m. 162.5° (alc.-H2O). Hydrolysis of VIII followed by sublimation gave III, m. 235-40° (decomposition). The mother liquors of the III fraction after several weeks gave epiquercitol (IX), m. 206-9° (decomposition); acetylation gave penta-O-acetylepiquercitol, m. 141-2°. From fraction G (RF 0.31) a few crystals separated; acetylation followed by sublimation gave scyllo-quercitol acetate, m. 193-4°, and hydrolysis gave scyllo-quercitol (X), m. 235°. The mother liquors of X gave no Scherer test, indicating the absence of allo-inositol (XI). Fractions 44-75 of the preliminary separation were found by paper chromatog. to contain II, epi- (XII), and (±)-inositol (XIII). Since II and XII had the same RF value in Me2CO-H2O, the mixture was dissolved in BuOH-AcOH-H2O (4:1:1), after 2 days XIII separating; acetylation gave a product, m. 110°. The mother liquors from XIII chromatographed in the same solvent ratio gave after crystallization II; the hexaacetate, m. 208° (alc. H2O), hydrolyzed gave II. II decomposed on slow heating but m. 377° (decomposition); hexabenzoate, m. 252° (anhydrous alc.). The fractions containing mainly XII were combined and acetylated to give epi-inositol acetate which after sublimation m. 187°. Fractions 76-250 gave V, m. 222-4° (aqueous alc.). IV (18 mg.) hydrogenated 3 h. in N HCl over 5 mg. PtO2 and the product chromatographed, and then acetylated gave II acetate. The quercitol fraction acetylated gave VIII, identical with the sample obtained from the hydrogenation of Va. A small scale hydrogenation in H2O with PtO2 followed by paper chromatog. showed the formation of II accompanied by traces of XII. IV (50 mg.) in 3 mL. H2O, kept slightly acid by addition of N H2SO4, treated with 1 g. Na-Hg gave XII penta-O-acetate. Va (10 g.), 6 g. Raney Ni W-2, 100 mL. alc., and 70 mL. H2O hydrogenated 40 min. at 120°/150 atmospheric and then 0.5 h. at 140°, the solution filtered, concentrated in vacuo, and dried gave a residue which, diluted with MeOH, m. about 280°, and V, m. 218-20°. Acetylation of the material gave VII hexaacetate, m. 254°; sublimation of the alc.-insol. residue gave VI hexaacetate. The filtrate from VI and VII was chromatographed and the products grouped in fractions A-F. Fraction A (RF 0.77) gave all-cis-cyclohexane-1,2,3-triol, m. 146-7°; hexabenzoate, m. 145°. Fractions B (RF 0.61) and D (RF 0.44) gave no crystalline products. Fraction C (RF 0.55) after crystallization and sublimation gave fractions m. 135-45°, 177-87°, 197-225°, and 225-7°. No pure substances were obtained. Fraction E (RF 0.39) gave III; acetate, m. 163°. There was no evidence of muco-inositol being present. Fraction F (RF 0.33) gave IX; acetate, m. 140°, also a form m. 122-3°. The mother liquors from IX were evaporated and chromatographed to give X acetate, and deacetylation yielded X, m. 232°. The mother liquors were concentrated to give allo-inositol acetate, m. 142°. Fractions 51-70 of the preliminary separation which contained II and XII on crystallization gave XII and II.

Fractions 38-50 were rechromatographed and crystallized to give II. All the mother liquors of fractions 38-70 were rechromatographed to give a mixture of IX and X, crude II, and crude XII. There was no evidence for the presence of XIII. Fractions 76-100 of the preliminary separation gave V. A

suspension of Va and 1 g. Pd-C in 200 mL. H2O hydrogenated 110 h., and paper chromatographed showed a high concentration of V and III and weaker spots at RF 0.31 and 0.38. Evaporation gave a resin which on crystallization gave VI. The solution was decanted, evaporated, dissolved in H2O, diluted with Me2CO, and chromatographed. Fractions 21-50 were rechromatographed to give III. Nearly all the II was in fractions 51-150; recrystn. gave pure II. The mother liquors were rechromatographed to give 3 main fractions. The first contained chiefly II, its mother liquors gave XIII. The 2nd fraction gave pure II and a mixture of II and XII. The 3rd fraction was chiefly V. All the mother liquors were again chromatographed and the first product acetylated gave X acetate. The 2nd half containing II and XII on acetylation gave XII acetate, m. 187-8°. The contents of fractions 181-260 fractionally crystallized gave VI and the remainder combined with fractions 151-180 gave IV. Va (10 g.) in 150 mL. H2O was hydrogenated 2 h. with Pd-C, the hexahydrobenzene precipitated, and reduced at 100 atmospheric over 10 g. more catalyst and 100 mL. H2O; after 23 h. the reduction was still incomplete so that the mixture was further hydrogenated 19 h. at 45-50°, and the isolated product gave 8.4 g. crude material, which left VI when redissolved in a little H2O. The filtrate was diluted with 300 mL. H2O and shaken 20 min. with 200 g. of strong base anion exchange resin converted into the *borate* form; paper chromatog. showed that all II had been removed but some IV and VI and unidentified material remained. The solution was filtered and the filtrate was not worked up. After the resin was shaken 1 h. with H2O, the filtrate contained IV. Repetition of this process 20 times still gave IV in the filtrate. The combined washings on evaporation and crystallization gave chiefly IV and another compound Chromatog. and acetylation gave a quercitol pentaacetate, m. 115-17°, which after deacetylation gave a quercitol, decomposing at 230-40°, which was not identical with any known quercitol. The resin shaken twice with 400 mL. N HCl gave first VI, then II, the mother liquors containing III and IX (or X), II, XII, and IV. III and II were isolated by chromatog. The other fractions were not worked up.

AB cf. C.A. 51, 12010g. Catalytic hydrogenation of hexahydroxybenzene (I) under various conditions gave complex mixts. of polyhydroxycyclohexanes which were separated by chromatog. on cellulose powder. Seven inositols and 4 quercitols were obtained from various runs, including the previously unknown cis-inositol (II), cis-quercitol (III), and cis-*inosose* (IV). At room temperature with a Pd catalyst myo-inositol (V) was the chief product, whereas Pd-C gave mainly II. High temperature hydrogenation over Raney Ni showed little stereospecificity. Me2CO-H2O (4:1) was used as the mobile phase unless otherwise stated. A suspension of 4 g. tetrahydroxybenzoquinone (Va) and 0.2 g. 10% Pd-C in 250 mL. H2O hydrogenated at room temperature and pressure gave in 7 h. I, whereupon 1.0 g. Pd catalyst was added and the hydrogenation continued. The reduction required 82 h. and 3 g. more catalyst was added during this period, the catalyst was removed, washed with hot H2O and the filtrate evaporated under reduced pressure and dried. The partially crystallized residue was warmed with H2O, and the material filtered to give scyllo-inositol (VI), m. 330-40° (H2O-alc.); hexaacetyl derivative, m. 292-3°. The filtrate from VI was seeded with neo-inositol (VII) and left overnight at 0°, and the solution chromatographed on cellulose powder to give a mixture of inositols and V. Their isolation was further studied. Thus, fractions 20-36 contained a reducing compound which, when treated with PhNHNH2, gave IV phenylhydrazone, decomposing at 150-60° (MeOH-H2O). The phenylhydrazone gave IV, m. 179-80° (H2O-alc.) (decomposition). The

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IT 1,2,3-Cyclohexanetriol, cis-
RL: *PREP* *(Preparation)*

IT *488-59-5P*, Scyllitol 20021-56-1P, 1,2,3,4-Cyclohexanetetrol, tetraacetate 20108-52-5P, Scyllitol, hexaacetate 92298-56-1P, 1,2,3,5-Cyclohexanetetrol, tetraacetate 92298-57-2P, 1,2,4,5-Cyclohexanetetrol, tetraacetate 96069-08-8P, 1,2,3-Cyclohexanetriol, tribenzoate
RL: *PREP* *(Preparation)*
(preparation of)

IT 13124-19-1P, *Inosose*
RL: *PREP* *(Preparation)*

(stereoisomers, formation in hydrogenation of benzenehexol, and derivs.)
IT 87-89-8P, Inositol 62076-18-0P, Quercitol
RL: PREP (Preparation)
(stereoisomers, formation in hydrogenation of benzenehexol, and esters)

L5 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1957:66483 CAPLUS
DOCUMENT NUMBER: 51:66483
ORIGINAL REFERENCE NO.: 51:12024c-d
TITLE: Cyclitol series. XXIII. The reduction of two *inososes* by sodium *borohydride*
AUTHOR(S): Reymond, D.
CORPORATE SOURCE: Univ. Geneva, Switz.
SOURCE: Helvetica Chimica Acta (1957), 40, 492-4
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: French
AB cf. C.A. 50, 1618h. Scyllo-ms-*inosose* and NaBH4 18 hrs. at room temperature give 45% ms-inositol and 32% scyllitol. Similarly, DL-epi-ms-*inosose* gives 90% epiinositol and no ms-inositol. A mechanism is suggested.
TI Cyclitol series. XXIII. The reduction of two *inososes* by sodium *borohydride*
AB cf. C.A. 50, 1618h. Scyllo-ms-*inosose* and NaBH4 18 hrs. at room temperature give 45% ms-inositol and 32% scyllitol. Similarly, DL-epi-ms-*inosose* gives 90% epiinositol and no ms-inositol. A mechanism is suggested.
IT *Inosose*, scyllo-meso-
(reduction with NaBH4)
IT 16940-66-2, Sodium *borohydride*
(*inosose* reduction by)
IT *488-59-5P*, Scyllitol
RL: PREP (Preparation)
(preparation of)
IT 13124-19-1, *Inosose*, DL-epi-meso-
(reduction with NaBH4)
IT 87-89-8P, Inositol
RL: PREP (Preparation)
(stereoisomers, preparation of)

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	39.35	49.47

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-7.20	-7.20

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STN INTERNATIONAL SESSION SUSPENDED AT 10:27:17 ON 28 MAY 2008